

## Section V - 2009 King Countywide STP/CMAQ Competition Application

To be used for projects submitted for the following Countywide Programs:

- ❖ Small Jurisdictions Program
- ❖ Larger Jurisdiction Program
- ❖ All Other Agency Program
- ❖ Rural Area Program

This application is available on the King County Web site at

<http://www.kingcounty.gov/transportation/kcdot/PlanningAndPolicy/RegionalTransportationPlanning/2009KCCtywideComp.aspx>

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**\*\*Please read all of the text in this section before completing this application.\*\***

**Important notice:** The importance of complete and accurate information on every application cannot be overemphasized. The evaluation and scoring of all submitted projects will be based on the answers provided in this application. A project's suitability for funding may be compromised if the application is found to have omissions or inaccuracies. In addition, sponsors of projects recommended for funding as a result of the competition should be aware that their application could be used in the future to evaluate the status of a project if it fails to comply with the requirements of the Puget Sound Regional Council's (PSRC) Project Tracking program.

**Projects receiving funding as a result of this competition:** Funding distributed as a result of the 2009 STP/CMAQ King Countywide Programs is awarded to projects, not to the sponsoring agency itself. Sponsors of projects that receive funds from this competition will be required to submit a more detailed TIPMOD or TIPNEW application, which will be due to the PSRC on July 7, 2009. Please note that these sponsors will also be asked to certify that they will comply with the conditions of the PSRC's Project Tracking Program, as a condition of accepting funding. Failing to comply with this condition, and/or with the conditions established in the PSRC's Project Tracking Program, may eventually result in the loss and/or transfer of funds to another Countywide project.

**14-page limit:** You may use additional pages if necessary; however, please be as brief as possible and limit your application to a total of fourteen (14) pages, plus map(s) and/or other required supporting documents.

**E-mail submissions are preferred:** Attach your completed application to an e-mail and send to [peter.heffernan@kingcounty.gov](mailto:peter.heffernan@kingcounty.gov). Please name the file "(Agency): (Project tile)" and in the e-mail subject line identify which Countywide program the application is being submitted (Small Jurisdiction, Large Jurisdiction, All Other, Non-motorized). If you are unable to e-mail the application, please mail a copy of the electronic file on diskette, and fax or mail a corresponding paper copy. Electronic copies of all applications are required, as they will be posted to the King County Web site. Mailed materials should be sent to: Peter Heffernan, King County Department of Transportation, M.S. KSC-TR -0814, 201 South Jackson Street, Seattle, WA 98104-3856 and/or faxed to 206-684-1812, Attn: Peter Heffernan. All applications must be submitted by **5pm May 15<sup>th</sup>, 2009**.

**Definition of a project:** For the purposes of this competition, a project must be clearly defined by geographic limits and/or functionality. If the project contains multiple components, the sponsor must clearly indicate how they are logically connected to one another. A project with multiple geographic locations must demonstrate their functional relationship (for example, signal coordination work in various locations tied together through a traffic control center). **Note: a project may request only one funding source – either STP or CMAQ, but not both.**



## PROJECT DESCRIPTION INFORMATION

1	<p><b>Project title:</b> Transit Dwell Time Reduction Program</p> <p>For roadway project titles: list facility name, limits, and any other identifying words. E.g., SR-520 HOV (104th Ave NE to 124th Ave NE).</p>
2	<p><b>Destination 2030 ID#:</b></p> <p>In order to be eligible for federal funding, a project must be in, or consistent with, <i>Destination 2030</i>, the region's Metropolitan Transportation Plan (MTP). To confirm if your project is specifically listed in <i>Destination 2030</i>, refer to Appendix 9 of <i>Destination 2030</i> at <a href="http://www.psrc.org/projects/mtp/d2030plan.htm">http://www.psrc.org/projects/mtp/d2030plan.htm</a>. For assistance or questions regarding these issues, contact Kimberly Scrivner at 206-971-3281 or <a href="mailto:kscrivner@psrc.org">kscrivner@psrc.org</a>.</p>
3	<p>a. <b>Sponsoring agency:</b> King County Department of Transportation/Metro Transit Division</p> <p>b. Co-sponsor(s) if applicable:</p> <p><b>Important:</b> For the purposes of this application and competition, "co-sponsor" refers to any agency that would receive a portion of the funding if the requested grant were to be awarded.</p> <p>c. Does sponsoring agency have "Certification Acceptance" status from WSDOT? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>d. If not, which agency will serve as your CA sponsor? (refer to WSDOT's Local Agency Guidelines Manual for information on CA status: <a href="http://www.wsdot.wa.gov/ta/operations/lag/LAG13.pdf">http://www.wsdot.wa.gov/ta/operations/lag/LAG13.pdf</a>)</p>
4	<p><b>Project contact person:</b> Peter Heffernan</p> <p>Address: 201 South Jackson Street, MS. KSC-TR-0814</p> <p>Phone: (206)684-1812 Fax:(206)684-2111 E-Mail: <a href="mailto:peter.heffernan@kingcounty.gov">peter.heffernan@kingcounty.gov</a></p>



**5 Project description.** Please distinguish between the scope of the project and the justification and/or need for the project.

**a. Project scope:** Please describe clearly and concisely the individual components of this project. What will be the specific outcome of this project? What will be built, purchased or provided with this grant request? For example, if this is part of a larger project, please be specific as to what portion on which the grant funds will be used.

The Transit Dwell Time Reduction Program will develop the necessary software for fare card readers to allow passengers to conduct their fare transaction onboard the bus at any door. It will also purchase and install fare card readers for Phase I of the project. Phase I will install rear door fare card readers on approximately 500 of Metro's busiest buses that operate with load factors of above .86. Phase II of the project will complete the installation of rear door fare card readers on the remaining buses in Metro's fleet.

**b. Project justification, need or purpose:** Please explain the intent, need or purpose of this project. What is the goal or desired outcome?

Currently, Metro passengers must pay or validate their fare at the front door as they pass the driver. For inbound routes, customers pay as they enter and for outbound routes, they pay as they leave. This can create significant delays for buses, particularly ones that have standing loads and require all passengers to exit through the front door. The introduction of a new fare payment process (ORCA) using smart cards is being unveiled this year which will reduce the number of people paying with cash, potentially speeding the boarding process. However, buses are only equipped with front door ORCA card readers, and this will limit the potential of this new fare payment system to speed the boarding process and lower dwell times. Adding a rear door reader will improve operating speeds on trips by allowing all door boardings and alightings, resulting in approximately 100 daily hours of benefit to the operating schedule. System-wide rear door readers also add a measure of flexibility to fare structures and how they may be collected.

Rear door fare card readers will provide the majority of their travel time savings during the critical peak period when the entire transportation network is congested. For example, on the Aurora Avenue corridor, between 4:30 p.m. and 5:30 p.m. on a weekday, the most congested part of the peak period, a rear door reader could reduce transit travel time by approximately 46 seconds per trip. When that travel time savings is applied to all the passengers on the bus, rear door fare card readers could reduce aggregate passenger travel delay by approximately 43 minutes per trip during the specified one hour period of time. Savings of this type would be had throughout the entire Metro network reducing daily passenger travel delay by as much as 2,900 hours a day. This would have associated savings in operating costs for Metro, saving time and money.

In addition to the operational benefits of rear door fare card readers, they are also an important technology application that will improve transit riders' perceptions in at least two ways. First, they change the speed of transit in strategic ways that are most valuable to transit customers. The most "expensive" times for a transit user are the time spent waiting for the bus and the time when the bus is not moving and rear door fare card readers would decrease this valuable time. Second, allowing customers to alight and board at the most convenient door reduces the amount of jostling that can happen on a full bus and contributes to the increased safety and comfort of customers on transit.



6	<p><b>Project location:</b> King County Metro service area</p> <p>a. County(ies) in which project is located: King Countywide</p> <p><b>Answer the following questions if applicable:</b></p> <p>b. Crossroad/landmark nearest to beginning of project (identify landmark if no crossroad):</p> <p>c. Crossroad/landmark nearest to end of project (identify landmark if no crossroad):</p>	
7	<p><b>Map:</b> 1. Include a legible 8½" x 11" project map with the completed application form.  2. Include a legible vicinity map with the completed application form (can be smaller than 8½" x 11").</p> <p><u>Note:</u> If unable to send the map electronically, mail a copy on diskette and provide a paper copy by fax or mail.</p>	
8	<p><b>Federal functional classification code</b> (Please select <u>only one</u> code using the table below)</p> <p>For assistance determining functional classification, contact Stephanie Rossi at 206-971-3054 or <a href="mailto:srossi@psrc.org">srossi@psrc.org</a>.</p> <p><b>Important:</b> A roadway must be <u>approved</u> on the federally classified roadway system before projects on it may use federal transportation funds (this includes proposed new facilities). Projects on a roadway with a functional classification of 09, 19, 29, or 39 are not eligible to use federal transportation funds unless they are one of the exceptions listed below. If your project is an exception, identify its functional class code as "00".</p> <p><u>Examples of exceptions:</u></p> <ul style="list-style-type: none"> <li>• Any bicycle and/or pedestrian project.</li> <li>• Projects not on a roadway and using CMAQ or other funds</li> <li>• Any transit project, including equipment purchase and park-and-ride lot projects.</li> </ul>	
9.	<p style="text-align: center;"><b>Rural Functional Classifications</b>  "Under 5,000 population"</p> <p style="text-align: center;">(Outside federal-aid urbanized and federal-aid urban areas)</p> <p><input type="checkbox"/> 00 Exception</p> <p><input type="checkbox"/> 01 Principal Arterial - Interstate</p> <p><input type="checkbox"/> 02 Principal Arterial</p> <p><input type="checkbox"/> 06 Minor Arterial</p> <p><input type="checkbox"/> 07 Major Collector</p> <p><input type="checkbox"/> 08 Minor Collector</p> <p><input type="checkbox"/> 09 Local Access</p> <p><input type="checkbox"/> 21 Proposed Principal Arterial – Interstate</p> <p><input type="checkbox"/> 22 Proposed Principal Arterial</p> <p><input type="checkbox"/> 26 Proposed Minor Arterial</p> <p><input type="checkbox"/> 27 Proposed Major Collector</p> <p><input type="checkbox"/> 28 Proposed Minor Collector</p> <p><input type="checkbox"/> 29 Proposed Local Access</p>	<p style="text-align: center;"><b>Urban Functional Classifications</b>  "Over 5,000 population"</p> <p style="text-align: center;">(Inside federal-aid urbanized and federal-aid urban areas)</p> <p><input checked="" type="checkbox"/> 00 Exception</p> <p><input type="checkbox"/> 11 Principal Arterial – Interstate</p> <p><input type="checkbox"/> 12 Principal Arterial – Expressway</p> <p><input type="checkbox"/> 14 Principal Arterial</p> <p><input type="checkbox"/> 16 Minor Arterial</p> <p><input type="checkbox"/> 17 Collector</p> <p><input type="checkbox"/> 19 Local Access</p> <p><input type="checkbox"/> 31 Proposed Principal Arterial – Interstate</p> <p><input type="checkbox"/> 32 Proposed Principal Arterial – Expressway</p> <p><input type="checkbox"/> 34 Proposed Principal Arterial</p> <p><input type="checkbox"/> 36 Proposed Minor Arterial</p> <p><input type="checkbox"/> 37 Proposed Collector</p> <p><input type="checkbox"/> 39 Proposed Local Access</p>



## COUNTYWIDE PROJECT EVALUATION

***Important:*** Projects will be evaluated and scored based on the information provided in Parts 1 and 2 that follow. Refer to the “2009 King County Countywide Project Evaluation Criteria” before completing these sections of the application for guidance, examples, and details on scoring.

### **Instructions:**

- Part 1: Choose the one project category that best fits your project and complete the corresponding section A, B, or C.
- Part 2: Complete all three sections in Part 2 (sections D, E, and F).

## **Part 1: Category Specific Questions (70 Points STP, 50 Points CMAQ)**

**10. Select one of the following three categories that best fits your project and follow the corresponding instructions:**

- ☐ Designated Center: Complete section A (question 11) and proceed directly to Part 2 (questions 14-17).
- ☐ Manufacturing/Industrial Center: Complete section B (question 12) and proceed directly to Part 2 (questions 14-17).
- ☒ Connecting Corridors: Complete section C (question 13) and proceed directly to Part 2 (questions 14-17).

**Note:** Information on the 2005 adopted Regional Economic Strategy and the targeted industry clusters, including definitions and maps of the clusters, may be found on the Prosperity Partnership website at <http://www.prosperitypartnership.org/clusters/index.htm>. For questions regarding these topics, contact Chris Strow at 206-971-3051 or [cstrow@psrc.org](mailto:cstrow@psrc.org)

### **A. Designated Regional Growth Centers**

**Instructions:** Complete this section (questions 11-13) if you selected “Designated Centers” in question 10, and then proceed directly to Part 2. Do not complete Sections B or C.

**11. Center Development.** Please address the following:

- Growth. Describe how the project will support the potential for housing/employment densities in the center. Describe how the project will support the development/redevelopment plans and activities of the center.
- Plans and Policies. Describe how the project furthers the objectives and aims of existing policies for the center; please provide a citation and copy of the corresponding policies.
- Economic Strategy. Describe whether the project helps to create or sustain jobs in the targeted industry clusters within the center; these clusters are identified in the adopted 2005 Regional Economic Strategy.

**12. Project’s Benefit to the Center.** Please address the following

- Long-Term Benefit. Does the project remedy a current or anticipated problem (e.g. congestion, incomplete sidewalk system, inadequate transit service/facilities, modal conflicts and/or the preservation of essential freight movement)? Please describe.
- User Groups Supported. Describe the user groups that will benefit from the project (including commuters, residents, commercial users, those groups identified in the President’s Order for Environmental Justice<sup>1</sup> and/or areas experiencing high levels of unemployment or chronic underemployment).

<sup>1</sup> The President’s Order for Environmental Justice states “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations.”



**13. Circulation within the Center.** Please address the following.

- Safety and Convenience. Describe how the project improves safe & convenient access to major destinations within the center.
- Intermodal Opportunities and Connections. Describe how the project will improve circulation and enhanced opportunities for active transportation within the center for people and/or goods regarding (address each relevant area): walkability, public transit access, public transit speed and reliability, safety & security, bicycle mobility, bicycle facilities, streetscape improvements, traffic calming, preservation of essential freight movement and/or other.
- Travel Choices. Describe how the project provides users (e.g. employees, residents, customers) a range of travel modes or provides a “missing” mode.
- System Continuity. Describe how the project completes a physical gap or provides an essential link in the transportation network.
- Parking. If the project has a parking component, describe how it has been designed to be compatible with a pedestrian oriented environment, including any innovative parking management tools.

**B. Manufacturing/Industrial Centers**

**Instructions:** Complete this section (question 14) if you selected “Manufacturing/Industrial Centers” in question 10, and then proceed directly to Part 2. Do not complete Sections A or C.

**14. Mobility and Accessibility.** Please address the following:

- Freight Movement. Describe how the project provides opportunities for freight movement.
- Growth Plans and Policies. Describe how the project will benefit or support the development of the manufacturing/industrial center.
- System Continuity. Does the project complete a physical gap, provide an essential link, or remove a barrier in the Freight & Goods component of the Metropolitan Transportation System (See Destination 2030, Technical Appendix 4)? Please describe.
- Safety. Describe how the project improves safety and reduces modal conflicts to help achieve a “seamless” system.
- Improved Commute Access. Describe how the project improves access for one or more modes to major employment sites or access to residential areas outside the center, including opportunities for active transportation.
- Trip Reduction. How does the project promote Commute Trip Reduction (CTR) opportunities?
- User Groups Supported. Describe the user groups (e.g. employees, customers, modal carriers, those identified in the President’s Order for Environmental Justice and/or areas experiencing high levels of unemployment or chronic underemployment) that will benefit from the project.
- Economic Strategy. Describe how the project helps to create or sustain jobs in the targeted industry clusters within the center; these clusters are identified in the adopted 2005 Regional Economic Strategy.

**C. Connecting Corridors**

**Instructions:** Complete this section (questions 15-17) if you selected “Corridors Serving Centers” in question 10, and then proceed directly to Part 2. Do not complete Sections A or B.

**15. Benefit to Centers or Manufacturing/Industrial Center.** Please address the following:

- Growth Plans and Policies. Describe how this project will benefit or support the housing and employment development of a regional growth and/or manufacturing/industrial center(s). Does it support multiple centers?
- Travel Choices. Describe how the project provides a range of travel modes to users traveling to centers, or if it provides a missing mode.



- **User Groups Supported.** Describe the user groups that will benefit from the project, including commuters, residents, commercial users, those groups identified in the President's Order for Environmental Justice and/or areas experiencing high levels of unemployment or chronic underemployment).
- **Economic Strategy.** Describe whether the project helps to create or sustain jobs in the targeted industry clusters within a center; these clusters are identified in the adopted 2005 Regional Economic Strategy.

### **Growth Plans and Policies:**

Rear door fare card readers will have a big impact on regional and local centers countywide as all routes will have faster boardings and alightings. Faster and more efficient transit service is a goal of PSRC, King County, and the City of Seattle, as noted in various planning documents. Rear door fare card readers improve the operating efficiency of transit vehicles by reducing dwell time and facilitating transfers across agencies. Rear door fare card readers not only encourage transit use by improving the customer's experience, but also by maximizing existing transit investments. It is estimated that reduced dwell time in just the regional centers will save the county 1,190 hours of daily passenger delay, a full 41 percent of the total benefit of rear door fare card readers, 2,900 passenger hours per day. Reducing dwell has the largest operational and transit passenger travel time benefits on those services that are most crowded. This is the case for two reasons. First, all-door boarding is most beneficial at stops with a large amount of boarding and alighting activity, which tend to be in dense urban areas. Second, the travel time benefits are realized not only by each passenger who boards the bus but are magnified by the number of passengers already on the bus. Since maximum loads tend to occur on services within and to the regional growth centers, routes that move through multiple centers experience even greater benefit. Rear door fare card readers will have the greatest positive impact on regional centers such as Bellevue, Renton, Tukwila, Northgate, and the University Community as well as other Seattle Urban Villages. Rear door fare card readers will make traveling within and between centers faster and more reliable, direct, and convenient.

At transit centers, where many transit services share a single facility, the advantages are even greater. Buses that are loading and unloading benefit as they would at other stops in the system. Additionally, the passengers who are waiting to board or alight a bus that is delayed behind the bus currently in the bus zone will benefit. More efficient use of these transit facilities create more transit capacity without needing to construct expensive capital infrastructure.

Rear door fare card readers move the county toward the realization of the following PSRC Metropolitan Transportation Plan Policies;

### **Vision 2040: Transportation pg. 82**

**MPP-T-1:** Maintain and operate transportation systems to provide safe, efficient, and reliable movement of people, goods and services.

**MPP-T-2:** Protect the investment in the existing system and lower overall life-cycle costs through effective maintenance and preservation programs.

**MPP-T-3:** Reduce the need for new capital improvements through investments in operations, pricing programs, demand management strategies, and system management activities that improve the efficiency of the current system.

**MPP-T-24:** Increase the proportion of trips made by transportation modes that are alternatives to driving alone.

**MPP-T-32:** Integrate transportation systems to make it easy for people and freight to move from one mode or technology to another.

Rear door fare card readers are an important part of a successful transit system in King County and support King County Countywide Planning Policy T-1 (pg 42) by promoting the mobility of people through a multi-modal system.

**T-1:** The Countywide transportation system shall promote the mobility of people and goods and shall be a multi-modal system based on regional priorities consistent with adopted land use plans. The transportation system shall include the following:

- a. An aggressive transit system including high-capacity transit;



- b. High-occupancy vehicle facilities;
- c. Freight railroad networks;
- d. Marine transportation facilities and navigable waterways;
- e. Airports;
- f. Transportation Demand Management actions;
- g. Non-motorized facilities; and
- h. Freeways, highways, and arterials.

Rear door fare card readers improve the convenience and attractiveness of transit by reducing dwell time and improving customer experience. In these ways rear door readers are consistent with the following goal, objective and policy within King County Metro's Comprehensive Plan for Public Transportation;

**Goal 1.1:** Ensure the ability to move around the region – provide reliable, convenient and safe public transportation services throughout the region for King County.

**Objective 2.4:** Increase travel opportunities on public transportation by developing a range of integrated and complementary services and facilities, and making the system easier to use and understand.

**Policy 3.2.4 System Integration and Access:** Plan, design and implement a system of services and facilities that support integration of regional and local services, and that facilitate access to the system for pedestrians, bicycles, transit collection/distribution services, and persons with disabilities, thereby providing a viable alternative to auto usage.

#### **Travel Choices:**

In addition to operational and transit passenger travel time savings, maximizing the use of the regional fare card (ORCA) will help remove a significant barrier that complicates transferring between cross transit agencies, the use of multiple fare media across transit providers. Rear door fare card readers promote the use of a fare medium that increases and simplifies the travel choices of all ORCA card holders, which encourages transit use and expands regional access to all destinations served by transit regardless of the provider or mode.

#### **Groups Supported:**

Rear door fare card readers would extend advantages to the entire system, especially to those routes with the heaviest loads. Many of Metro's services that have heavy loads are designated as minority routes according to federal Title VI regulations. For example routes 174, 60, and 128 serve some of the heaviest loads in Metro's system. They also all serve census tracts with higher than average levels of minority residents, providing necessary mobility to groups identified in the President's Order for Environmental Justice.

In addition to the groups identified in the President's Order for Environmental Justice, rear door fare card readers would support transit commuters, traveling in the peak period when stop activity may be heavy, employees trying to take advantage of employer CTR programs, and disabled persons who could benefit from shorter boarding lines as able bodied persons could board in the back.

#### **Regional Economic Strategy:**

Rear door fare card readers will help support jobs in regional economic centers by making the transit services that travel to and through those economic centers more efficient and attractive. It is estimated that 71,000 employees use transit to access jobs in the regional growth and manufacturing centers in King County each day. Travel time savings realized from faster boardings and alightings will be most evident in areas where there is a high degree of stop activity. The concentration of employers in the region's economic centers position these centers particularly well to realize the benefits of rear door readers. In addition to the travel time savings of the rear door fare card readers, their nexus with the regional fare card will only enhance the transit access of economic centers in the Puget Sound by promoting and making more effective a seamless fare media that can be used across all transit operators in the region.



**16. System Continuity.** Please address the following:

- **Serving Centers.** Describe how this project provides a “logical segment” that links to a regional growth or manufacturing/industrial center.
- **Missing Link.** Describe how the project fills in a missing link or removes barriers to a center.
- **Congestion Relief.** Describe how this project will relieve pressure or remove a bottleneck on the Metropolitan Transportation System and how this will positively impact overall system performance.

**Serving Centers:**

The Puget Sound Region has introduced a regional smart card (ORCA) that will be used as a common fare medium on all transit services in the region. The purpose of this regional fare card is to facilitate the seamless movement of transit users between and through regional centers, regardless of transit operator. ORCA is the product of a significant investment that the region has made in streamlining the transit fare transaction process. Rear door fare card readers help take full advantage of ORCA by improving the ability of customers to get on and off the bus faster. Rear door fare card readers are a next logical step for Metro to better support movement between and through the regions centers. Rear door fare card readers would save the county an estimated 2,900 daily hours of passenger delay. Regional centers would receive 41 percent of those passenger delay savings by reducing dwell times at heavily used stops.

Improving transit travel times, reliability, and customer convenience during the peak period could be expected to have an especially strong influence on mode choice and the attractiveness of transit. For example, between 4:30 p.m. and 5:30 p.m. during the week, two door boarding and alighting facilitated by rear door fare card readers could reduce travel time on average by 46 seconds a trip. When that travel time savings is applied to all the passengers on the coach, rear door fare card readers would reduce passenger delay by approximately 43 minutes per trip between 4:30 p.m. and 5:30 p.m.

**Missing Link:**

Multiple fare media has long created a barrier to seamless transit use across the region. Rear door fare card readers will help overcome this barrier by supporting the regional ORCA card that can be used throughout the region regardless of transit provider or mode. The ORCA card will facilitate transfers between light rail, commuter rail, ferries and bus services. Another barrier to transit use, particularly for commute trips is the variability of transit travel time. The variability of time spent boarding and alighting a transit vehicle increases travel time and adds to the unreliability of transit services. The ORCA card has the potential to reduce the unpredictability in how long it takes to pay fares, board and alight the bus. Overall, rear door fare card readers enhance the ORCA card's ability to increase transit speed and reliability.

**Congestion Relief:**

One of the most significant bottlenecks in transit that results in delay occurs at the doors of transit vehicles. Rear door fare card readers will directly address this bottleneck by allowing boarding and alighting to occur at all transit doors rather than limiting fare transactions to a single door. In addition, rear door readers will make transit a more competitive travel option by reducing travel time and increasing the attractiveness of the regional fare media, for which a substantial investment by all regional transit agencies has already been made. They also improve the transit users experience by allowing passengers to use the most convenient door rather than forcing all fare transactions to occur at the front of the bus. Speeding boarding will have the added positive impact of improving conditions for transit users by limiting their exposure to inclement weather.

Just as slow boarding and alighting creates a bottleneck for passengers at the transit door, it negatively impacts traffic that backs up behind a bus that is stopped in a bus zone. Rear door fare card readers would improve flow of general purpose traffic, particularly in congested urban cores where transit traffic is heavy and competes with transit for roadway space.



**17. Long-term Benefit/Sustainability.** Please address the following:

- **Efficiency.** How does this project support a long-term strategy to maximize the efficiency of the corridor? Describe the problem and how this project will remedy it.
- **Safety.** Describe how this project improves safety and/or reduces modal conflict, and provides opportunities for active transportation.

**Efficiency:**

Rear door fare card readers will enable Metro to be more flexible with fare collection and rider information as well as to maximize efficiency along transit pathways. RapidRide, Metro's new BRT service that is scheduled to begin in 2010, is planned to experiment with a hybrid proof-of-payment fare collection system, with most passengers paying with ORCA cards, but allowing cash payment through the front door as well. Rear door fare card readers would be useful in Metro's current fare environment as well as support a proof-of-payment fare collection process or any combination of the two. Reduced dwell times will maximize transit through congested transit facilities where boarding and alighting delays result in backed up buses attempting to service a shared stop.

In addition to passenger facility capacity improvements, rear door fare card readers will provide operational benefits by improving running speeds and reliability. It is estimated that rear door fare card readers will provide over 100 daily hours of benefit to the operating schedule. This benefits will result in additional reliability improvements by protecting scheduled recovery time and reducing the need for to be dedicated to schedule maintenance.

**Safety and Security:**

Allowing boarding or alighting at the most convenient door improves passenger safety by reducing potential conflicts, verbal, physical or accidental, that can arise when navigating through a crowded transit vehicle. Reducing the delay caused by boardings and alightings rear door readers will encourage transit use as a form of active transportation. Additionally, a proof of payment system would require more security and transit personnel on the buses to check fares. This would increase the visibility of the transit police and other transit personnel, and positively impact perceived security on buses.

## **PART 2: QUESTIONS FOR ALL PROJECTS**

**Instructions:** Once Section A, B, or C in Part 1 has been completed, complete all of Part 2 (questions 18-21).

### **D. Air Quality and Climate Change (20 Points STP, 40 Points CMAQ)**

**18. Describe how your project will reduce emissions.** Include a discussion of the population served by the project – who will benefit, where, and over what time period. Projects may have the potential to reduce emissions in a variety of ways, depending on the type of project. Please provide the requested information if your project contains the elements listed below:

- **Diesel retrofits:** Describe the types and numbers of vehicles, vessels, or equipment involved, how often they are used, where they are used, how much fuel is consumed annually and when the retrofits will occur.
- **Roadway capacity (general purpose and high occupancy vehicles):** Describe the roadway and travel conditions before and after the proposed project, including average daily traffic and travel speeds. Describe the potential for multimodal connections, shorter vehicle trips, etc.
- **Transit (park-and-ride lots, new or expanded transit service, transit amenities, etc.):** What is the current transit ridership in the project area? What are the current transit routes serving the project area? If a park-and-ride lot, how many stalls are being added? Describe how the amenities (or other components of the project) are expected to encourage new transit ridership and shift travel from single occupant vehicles to multimodal options. What is the average trip length for a new rider?



- Bicycle and/or pedestrian facilities: What is the length of the facility? What are the connections to other nonmotorized facilities and to the larger nonmotorized system? Describe the expected travel shed (i.e., land use and population surrounding the project).
- Signalization and other ITS improvements: Describe the existing conditions in the area (i.e., level of service, average daily traffic, etc.), and describe how the project is expected to improve traffic flow (increase speed, reduce idling, remove accidents, etc.). Is there a significant amount of truck traffic (i.e. freight movement) on the facility? Does the project improve traffic flow for particular modes, e.g. HOVs, or types of vehicles, e.g. freight trucks?
- Alternative fuels/vehicles: Describe the change in fuel or vehicle technology. How many vehicles are affected? What are the current conditions?
- Other: Describe how your project has the potential to reduce emissions through technology, improved management or other means, e.g. “no idling” signage & enforcement, auxiliary power units to operate heating, cooling & communications equipment, truck stop electrification, etc.

This project is to be applied to the entire transit network, so it will reduce travel times and make transit more attractive anywhere that there is significant dwell time. It is estimated that rear door fare card readers will eliminate 2,900 daily hours of passenger delay with most of those savings accumulating in congested areas at peak periods. Improving transit travel time, reliability and customer convenience during the peak period could have an especially strong influence on mode choice and the attractiveness of transit.

Rear door fare card readers would also address some of the biggest barriers to transit use in the United States, the perception that transit is unreliable and a lot slower than other modes. As previously mentioned, not all travel time savings are perceived the same by transit riders. Transit passengers are most impacted by time waiting for a transit vehicle and time when the vehicle is not in motion the highest. And those who choose not to ride transit, often do so because of variability in trip time and uncertainty about when the bus is coming. In addition to the actual travel time savings, rear door fare card readers reduce the travel time that is valued the most, that when the coach is not moving, and could also improve reliability. This will reduce the amount of time passengers wait at the stop and potentially draw new users to transit. If transit becomes more attractive during this critical time of day it could result in fewer single occupancy vehicles during this period, improve the efficiency of transit and thereby increase the capacity of the transportation network, all of which would have a positive impact on air quality.

In addition to the air quality impacts that increased transit ridership would have, reduced transit dwell time would reduce transit vehicle idling time and improve the flow of general purpose traffic. This would be particularly pronounced in the congested urban cores where transit traffic is heavy and competes for roadway space with general purpose traffic.

#### **E. Project Readiness/Financial Plan (10 Points)**

**Introduction:** Two primary tools will be used to obtain information needed to judge a project’s ability to proceed: responses to the project readiness question (14) and financial plan question (15) below. The primary objective of the evaluation is to determine whether a sponsor has assembled all of the funding needed to complete the project or phase(s), and when the sponsor will be ready to obligate the requested regional funding. All questions must be completely and accurately filled out in order for this information to be properly assessed. The information will be used to determine:

- When the sponsor can complete all prerequisites needed to obligate the project’s requested PSRC funding.
- When the sponsor plans to obligate requested PSRC funding.
- The amount and source of secured funding for the project.
- The amount and source of reasonably expected but unsecured funding for the project.



- Whether PSRC's federal funds will complete the project or a phase of the project.

**Note:** The standard PSRC definitions will apply for determining when funding is "secured" or "reasonably expected to be secured." These definitions are included in Section 5 of the STP/CMAQ Regional Competition Call for Projects.

**19. Project Readiness:** Please fill out the questions below if your project is requesting funds for a **Right-of-way (ROW) and/or Construction (CN) phase**. Projects requesting funds only for a Preliminary Engineering phase need not answer question #19.

PSRC recognizes that the complexity of some projects can trigger a variety of prerequisites that must be satisfied **before** STP and CMAQ funding is typically eligible to obligate. These questions are designed to identify those requirements and assist sponsors to:

- Identify which requirements apply to their specific project.
- Identify which requirements have already been satisfied at time of application.
- Provide an explanation and realistic completion date for all requirements not yet completed.

**Important instructions:** For question 19A below, select one of the three options from the drop-down list for each item that applies at the time of submission of this application. These items are based on the documentation requirements for obligation of federal funds. For any item where "Item not yet completed" is selected, and for any additional requirements pertaining to the project, provide details in question 19B, including the estimated schedule for completion.

**19A. Check all items that apply below.** Note: if no ROW is required for the project, select "not needed" for sections b through g.

- Not yet completed a. Final FHWA or FTA approval of environmental documents including:
  - Not needed - BA Concurrence: NMFS, U.S. Fish & Wildlife, WSDOT.
  - Not needed - Section 106 Concurrence.
  - Not yet completed - FHWA/FTA Environmental Classification Summary Checklist (or EA or EIS).
- Not needed b. True Cost Estimate for Right of Way.
- Not needed c. Right-of-way Plans (stamped).
- Not needed d. Relocation Plan (if applicable).
- Not needed e. Right-of-way Certification.
- Not needed f. Certification Audit by WSDOT R/W Analyst.
- Not needed g. Relocation Certification, if applicable.
  - Not needed - WSDOT Certification Audit of Relocation Process, if applicable.
- Not yet completed h. Engineer's Estimate.
- Not needed i. All environmental permits obtained (e.g., Army Corps of Engineers Permit, HPA, etc.)

**19B. Additional information:** Include details on any items above that are not yet completed and provide an estimated schedule. Please provide any additional information as appropriate (e.g., status of planning, environmental documentation, permits, design, etc.).

This project involves the procurement and installation of rear door reader on future and existing transit vehicles. It is not anticipated that there will be any environmental impact. All environmental documents are estimated to be complete no later than 01/01/2011. Engineers estimate is estimated to be complete by 12/31/2009.

**20. Financial plan:** Please fill out Tables A through D below and corresponding questions E through F. The purpose of the tables and questions is to allow sponsors to fully document their project's financial



plan and schedule. Tables A, B, and C build upon one another to provide the estimated cost of each phase as well as a project's total cost (Table D). The tables require sponsors to list the federal funds being requested from the Regional Competition (Table A), as well as ALL other sources of secured (Table B) and unsecured (Table C) funds needed to complete the project.

**Guidelines:**

- All requested information must be provided to earn maximum points.
- Provide financial information for all funding types in every applicable phase, and use a separate row for each funding source.
- Totals of federal and other funds listed in Tables A, B, and C should equal the total project cost in Table D.
- Funding commitment letters must be provided for all financial partners.

**Required Match:** A minimum of 13.5% match is required for both STP and CMAQ funds. Sponsors of projects awarded funds through this competition will be required to provide information on these matching funds at a later date.

**Table A: Funding Requested from Countywide Competition**

Phase	Estimated Obligation Date by Phase (mm/dd/yy)	PSRC Federal Funding Source (enter either STP or CMAQ; choose only one)	PSRC Federal Funds Amount
PE/Design	06/01/2010	STP	\$400,000
Phase I: Equipment and Installation	01/01/2011	STP	\$1,100,000
			\$
<b>Totals:</b>			<b>\$1,500,000</b>

**Table B: Existing Secured Funding**

Phase	Estimated Obligation date by Phase* (mm/dd/yy)	Source	Amount
PE	06/01/2010		\$100,000
Phase I: Equipment and Installation	01/01/2011		\$270,000
			\$
			\$
			\$
<b>TOTAL:</b>			<b>\$370,000</b>

\*For tables B and C, "obligation" may be defined as expenditure or other commitment of funds. For assistance, please refer to "Definitions for Secured and Reasonably Expected to be Secured Funding" in Section 5 of the Call for Projects.



**Table C: Needed Future Funding (Unsecured)** Note: do not include the grant funds requested in Table A

Phase	Estimated Obligation date by Phase (mm/dd/yy)	Source	Amount
Phase II: Equipment and Installation	01/01/2012	Grants	\$2,040,000
Phase II: Equipment and Installation	01/01/2012	Local	\$540,000
			\$
			\$
			\$
<b>TOTAL:</b>			<b>\$2,580,000</b>

**Table D: Total Project Cost and Schedule** (Please provide the total estimated cost and scheduled completion date for each phase of the project.)

Total Estimated Project Cost		Scheduled Completion of Phases	
Phase	Total Estimated Cost	Phase	Scheduled Completion Date (mm/dd/yy)
Planning:	\$	Planning:	
Preliminary Engineering/Design:	\$500,000	Preliminary Engineering/Design:	06/01/2010
Right of Way:	\$	Right of Way:	
Construction:	\$	Construction:	
Other (Specify) Phase I: Equipment and Installation	\$1,500,000	Other (specify) Phase I: Equipment and Installation	01/01/2011
Phase II: Equipment and Installation:	\$2,580,000	Phase II: Equipment and Installation:	01/01/2012
Total Project Cost:	\$4,580,000	Estimated date of completion (i.e. open for use)	01/01/2012

**E. Identify the project phases (PE, ROW, CN, etc.) that will be fully completed if requested funding is obtained:**

If this funding request is granted, all project phases, PE, Equipment procurement and installation will be fully completed.

**F. If unable to completely fill out Table D (Total Project Cost and Schedule):** Use the space below to explain the nature of any project for which the total project cost and/or schedule is presently unknown. For example, a project may study the merits/costs of various routes or construction techniques and, consequently, the total project costs won't be determined until the study is complete.**F. Other Considerations (No Points)**

21. Please describe any additional aspects of your project not previously addressed in the application that could be relevant to the final project recommendation and decision-making process, particularly those relating to the support of centers and connecting corridors. Note: no points will be given to this section.



# KING COUNTY

Seattle

Bellevue

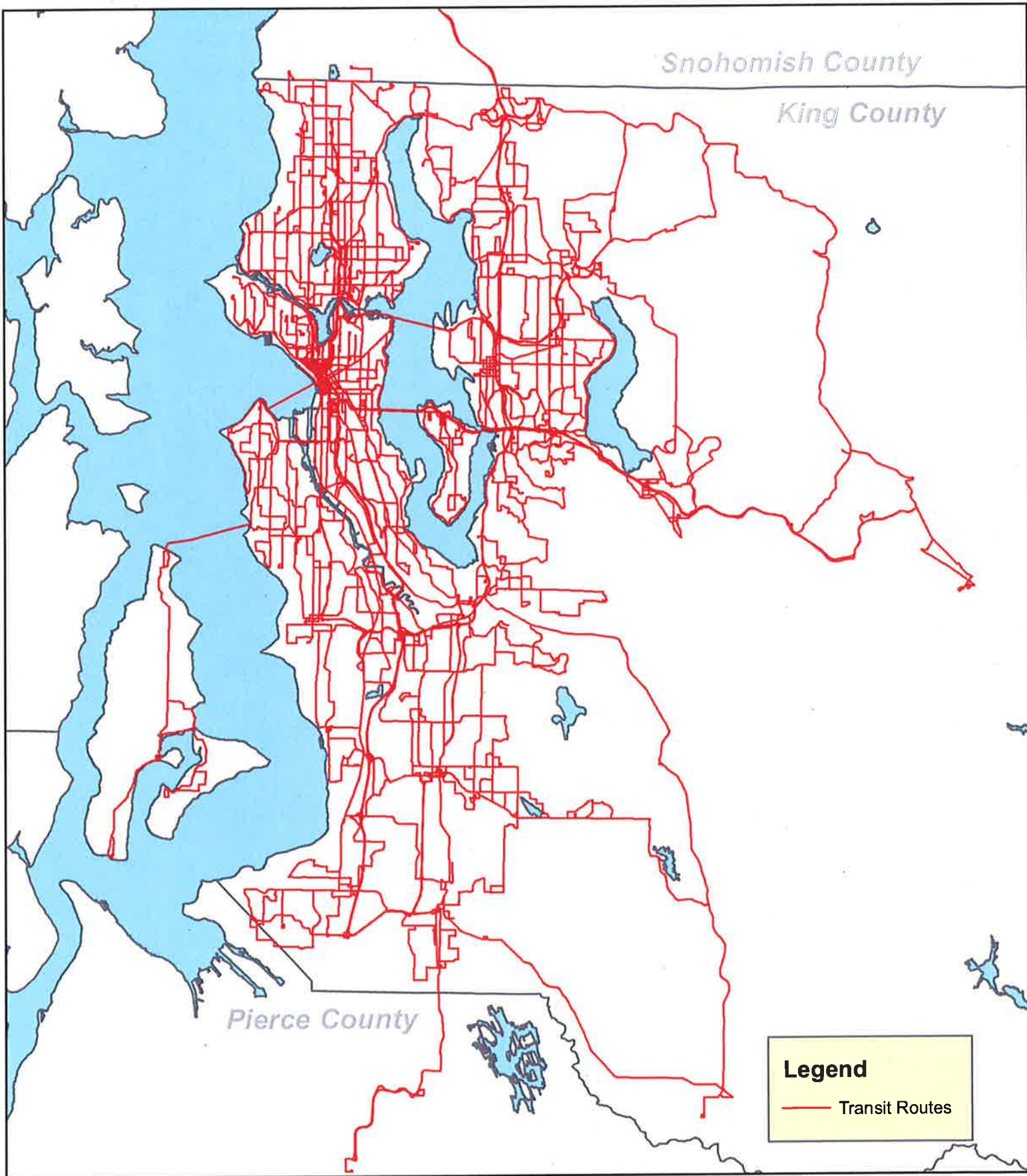
*Study Area*











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**King County**

# King County Metro Transit Routes



